

OIKE

RAW SEQUENCE LISTING

DATE: 10/01/2001

PATENT APPLICATION: US/09/812,143

TIME: 10:28:23

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10012001\I812143.raw

5 <110> APPLICANT: Boehringer Ingelheim Pharma KG
 7 <120> TITLE OF INVENTION: Novel non-selective cation channel
 9 <130> FILE REFERENCE: 1-1128

C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/812,143

C--> 12 <141> CURRENT FILING DATE: 2001-09-17

14 <150> PRIOR APPLICATION NUMBER: 100 13 296.0

15 <151> PRIOR FILING DATE: 2000-03-17

17 <160> NUMBER OF SEQ ID NOS: 13

19 <170> SOFTWARE: PatentIn Ver. 2.1

21 <210> SEQ ID NO: 1

22 <211> LENGTH: 3202

23 <212> TYPE: DNA

24 <213> ORGANISM: Homo sapiens

26 <400> SEQUENCE: 1

27 ctctcaccgc ctactaccag ccgctggagg gcacaatggc ggattccagc gaaggccccc 60
 28 gcgcggggcc cggggagggtg gctgagctcc ccggggatga gaggggcacc ccagggtggg 120
 29 aggcctttcc tctctcctcc ctggccaatc tgtttgaggg ggaggatggc tccctttcgc 180
 30 cctcaccggc tgatgccagt cgccctgctg gcccaggcga tgggcgacca aatctgcgca 240
 31 tgaagttcca gggcgcccttc cgcaaggggg tgcccaacc ccatgatctg ctggagtcca 300
 32 ccctatatga gtccctcgggtg gtgcctgggc ccaagaaagc acccatggac tcaactgttg 360
 33 actacggcac ctatcgtcac cactccagtg acaacaagag gtggagggaag aagatcatag 420
 34 agaagcagcc gcagagcccc aaagcccctg cccctcagcc gccccccatc ctcaaagtct 480
 35 tcaaccggcc tatcctcttt gacatcgtgt ccgggggtc cactgctgac ctggacgggc 540
 36 tgctcccatt cttgctgacc cacaagaaac gcctaactga tgaggagtgt cgagagccat 600
 37 ctacggggaa gacctgcctg cccaaggcct tgctgaacct gagcaatggc cgcaacgaca 660
 38 ccataccctgt gctgctggac atcgcgagc gcaccggcaa catgcgggag ttcatataact 720
 39 cgcccttcog tgacatctac tatcgaggtc agacagccct gcacatcgcc attgagcgtc 780
 40 gctgcaaaca ctacgtggaa cttctcgttg cccaggggag tgatgtccac gcccaggccc 840
 41 gtgggcgctt cttccagccc aaggatgagg ggggctactt ctactttggg gagctgcccc 900
 42 tgctcgtggc tgccctgcacc aaccagcccc acattgtcaa ctacctgacg gagaaccccc 960
 43 acaagaaggc ggacatgcgg cgccaggact cgcgaggcaa cacagtgtct catgcgctgg 1020
 44 tggccattgc tgacaacacc cgtgagaaca ccaagtttgt taccaagatg tacgacctgc 1080
 45 tgctgctcaa gtgtgcccgc ctcttccccg acagcaacct ggaggccgtg ctcaacaacg 1140
 46 acggcctctc gcccctcatg atggctgcca agacgggcaa gattgggatc ttccagcaca 1200
 47 tcatccggcg ggagggtgac gatgaggaca cagggcacct gtcccgaag ttcaaggact 1260
 48 gggcctatgg gccagtgtat tctcgtctt atgacctctc ctccctggac acgtgtgggg 1320
 49 aagaggcctc cgtgctggag atcctggtgt acaacagcaa gattgagaac cgccacgaga 1380
 50 tgctggctgt ggagcccatc aatgaactgc tgcgggacaa gtggcgcaag ttcggggccc 1440
 51 tctccttcta catcaacgtg gtctcctacc tgtgtgccat ggtcatcttc actctcaccg 1500
 52 cctactacca gccgctggag ggcacaccgc cgtaccctta ccgcaccacg gtggactacc 1560
 53 tgcggctggc tggcgaggtc attacgtct tcaactgggt cctgttcttc ttaccaaca 1620
 54 tcaaagactt gttcatgaag aaatgccctg gaggtaattc tctcttcatt gatggctcct 1680
 55 tccagctgct ctacttcac tactctgtcc tgggtgatgt ctcagcagcc ctctacctgg 1740
 56 cagggatcga ggcctacctg gccgtgatgg tctttgccct ggtcctgggc tggatgaatg 1800
 57 ccttttactt caccctggg ctgaagctga cggggaccta tagcatcatg atccagaaga 1860
 58 ttctcttcaa ggaccttttc cgattcctgc tctgtactt gctcttcacg atcggtacg 1920
 59 cttcagccct ggtctccctc ctgaaccctg gtgccaacat gaagggtgtg aatgaggacc 1980

ENTERED

RAW SEQUENCE LISTING

DATE: 10/01/2001

PATENT APPLICATION: US/09/812,143

TIME: 10:28:23

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10012001\I812143.raw

```

60 agaccaactg cacagtgcc acttaccct cgtgccgtga cagcgagacc ttcagcacct 2040
61 tctcctgga cctgtttaag ctgaccatcg gcatgggcga cctggagatg ctgagcagca 2100
62 ccaagtaccc cgtgggtcttc atcatcctgc tgggtgacct catcatcctc acctttgtgc 2160
63 tgctcctcaa catgtcatt gccctcatgg gcgagacagt gggccagggt tccaaggaga 2220
64 gcaagcacat ctggaagctg cagtgggcca ccaccatcct ggacattgag cgtccttcc 2280
65 ccgtattcct gaggaaggcc ttccgctctg gggagatggt caccgtgggc aagagctcgg 2340
66 acggcactcc tgaccgcagg tgggtgcttca ggggtgatga ggtgaactgg tctcactgga 2400
67 accagaactt gggcatcatc aacgaggacc cgggcaagaa tgagacctac cagtattatg 2460
68 gcttctcgca taccgtgggc cgcctccgca gggatcgctg gtccctcgggt gtaccccgcg 2520
69 tgggtggaact gaacaagaac tcgaaccggg acgaggtggt ggtgcctctg gacagcatgg 2580
70 ggaacccccg ctgcgatggc caccagcagg gttacccccg caagtggagg actgaggacg 2640
71 ccccgctcta gggactgcag cccagcccca gcttctctgc ccactcattt ctagtccagc 2700
72 cgcatttcag cagtgccttc tggggtgtcc cccacacccc tgctttggcc ccagaggcga 2760
73 gggaccagtg gaggtgccag ggaggcccca ggacctgtg gtcccttggc tctgcctccc 2820
74 caccctgggg tgggggctcc cggccacctg tcttgcctct atggagtac ataagccaac 2880
75 gccagagccc ctccacctca gggcccgacc cctgcctctc cattatttat ttgctctgct 2940
76 ctcaggaagc gacgtgacct ctgcccagc tggaaacctg cagaggcctt aggaccccg 3000
77 tccaagtga ctgcccggcc aagcccagc ctacgcctgc gctgagctg catgcgccac 3060
78 catttttggc agcgtggcag ctttgcaagg ggctggggcc ctcggcgtgg ggccatgcct 3120
79 tctgtgtgtt ctgtagtgtc tgggatttgc cgggtgctcaa taaatgttta ttcattgacg 3180
80 gtgaaaaaaaa aaaaaaaaaa aa 3202
83 <210> SEQ ID NO: 2
84 <211> LENGTH: 3202
85 <212> TYPE: DNA
86 <213> ORGANISM: Homo sapiens
88 <400> SEQUENCE: 2
89 ctctcaccgc ctactaccag ccgctggagg gcacaatggc ggattccagc gaaggccccc 60
90 gcgcgggggc cggggagggt gctgagctcc ccggggatga gagtggcacc ccaggtgggg 120
91 aggcctttcc tctctcctcc ctggccaatc tgtttgaggg ggaggatggc tccctttcgc 180
92 cctcaccggc tgatgccagt cgcctgctg gcccaggcga tgggcgacca aatctgcgca 240
93 tgaagttcca gggcgccctc cgcaaggggg tgcccaaccc catcgatctg ctggagtcca 300
94 ccctatatga gtccctcgtg gtgcctgggc ccaagaaagc acccatggac tcaactgtttg 360
95 actacggcac ctatcgtcac cactccagt acaacaagag gtggagggaag aagatcatag 420
96 agaagcagcc gcagagcccc aaagcccctg cccctcagcc gccccccatc ctcaaagtct 480
97 tcaaccggcc tatcctcttt gacatcgtgt cccggggctc cactgctgac ctggacgggc 540
98 tgctcccatt cttgctgacc cacaagaaac gcctaactga tgaggagttt cgagagccat 600
99 ctacggggaa gacctgcctg cccaaggcct tgctgaacct gagcaatggc cgcaacgaca 660
100 ccatccctgt gctgctggac atcgcgagc gcaccggcaa catgcgggag ttcattaact 720
101 cgcccttcgc tgacatctac tatcgagggt agacagccct gcacatcgcc attgagcgtc 780
102 gctgcaaaaca ctacgtggaa cttctcgtgg cccaggggag tgatgtccac gcccaggccc 840
103 gtgggcgctt cttccagccc aaggatgagg ggggctactt ctactttggg gagctgcccc 900
104 tgctcgtggc tgccctgacc aaccagcccc acattgtcaa ctacctgacg gagaaccccc 960
105 acaagaaggc ggacatgcgg cgccaggact cgcgaggcaa cacagtgtg catgcgctgg 1020
106 tggccattgc tgacaacacc cgtgagaaca ccaagtttgt taccaagatg tacgacctgc 1080
107 tgctgtcaa gtgtgcccgc ctcttccccg acagcaacct ggaggccgtg ctcaacaacg 1140
108 acggcctctc gccctcatg atggctgcca agacgggcaa gattgggatc tttcagcaca 1200
109 tcatccggcg ggaggtgacg gatgaggaca cagggcaact gtcccgcaag ttcaaggact 1260
110 gggcctatgg gccagtgtat tctcgtctt atgacctctc ctccctggac acgtgtgggg 1320
111 aagaggcctc cgtgctggag atcctgggtg acaacagcaa gattgagaac cgccacgaga 1380

```

RAW SEQUENCE LISTING

DATE: 10/01/2001

PATENT APPLICATION: US/09/812,143

TIME: 10:28:23

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10012001\I812143.raw

```

112 tgctggctgt ggagcccatc aatgaactgc tgcgggacaa gtggcgcaag ttcggggccg 1440
113 tctccttcta catcaacgtg gtctcctacc tgtgtgccat ggtcatcttc actctcaccg 1500
114 cctactacca gccgctggag ggcacaccgc cgtaccctta ccgcaccacg gtggactacc 1560
115 tgcggctggc tggcgaggtc attacgctct tcaactgggt cctgttcttc ttcaccaaca 1620
116 tcaaagactt gttcatgaag aaatgccctg gagtgaattc tctcttcatt gatggctcct 1680
117 tccagctgct ctacttcatc tactctgtcc tggtgatcgt ctccagcagc ctctacctgg 1740
118 cagggatcga ggcctacctg gccgtgatgg tctttgccct ggtcctgggc tggatgaatg 1800
119 ccctttactt caccctggg ctgaagctga cggggaccta tagcatcatg atccagaaga 1860
120 ttctcttcaa ggaccttttc cgattcctgc tctgtactt gctcttcatt atcggctacg 1920
121 cttcagccct ggtctccctc ctgaaccctg gtgccaacat gaagggtgtg aatgaggacc 1980
122 agaccaactg cacagtggc acttaccctc cgtgccgtga cagcgagacc ttcagcacct 2040
123 tctcctgga cctgtttaag ctgaccatcg gcatggcgca cctggagatg ctgagcagca 2100
124 ccaagtaccc cgtggtcttc atcatcctgc tggtgacctc catcatctc acccttggtg 2160
125 tgctcctcaa catgctcatt gccctcatgg gcgagacagt gggccaggtc tccaaggaga 2220
126 gcaagcacat ctggaagctg cagtgggcca ccaccatcct ggacattgag cgctccttcc 2280
127 ccgtattcct gaggaaggcc ttccgctctg gggagatggc caccgtgggc aagagctcgg 2340
128 acggcactcc tgaccgcagg tgggtgcttca gggtgatga ggtgaactgg tctcactgga 2400
129 accagaactt gggcatcatc aacgaggacc cgggcaagaa tgagacctac cagtattatg 2460
130 gcttctcgca taccgtgggc cgctccgca gggatcgctg gtcctcggtg gtaccccgcg 2520
131 tggtggaact gaacaagaac tcgaaccctg acgaggtggg ggtgcctctg gacagcatgg 2580
132 ggaacccccg ctgcgatggc caccagcagg gttacccccg caagtggagg actgaggacg 2640
133 ccccgctcta gggactgcag cccagcccca gcttctctgc cactcattt ctagtccagc 2700
134 cgcatttcag cagtgccttc tggggtgtcc cccacacccc tgccttgggc ccagaggcga 2760
135 gggaccagtg gaggtgccag ggaggcccca ggacctgtg gtccctggc tctgcctccc 2820
136 caccctgggg tgggggctcc cgccacctg tcttgctcct atggagtcac ataagccaac 2880
137 gccagagccc ctccacctca ggccccagcc cctgcctctc cattatttat ttgctctgct 2940
138 ctccaggaagc gacgtgacct ctgccccagc tggaaacctg cagaggcctt aggacccctg 3000
139 tccaagtga ctgcccggcc aagccccagc ctccagcctg gcctgagctg catgcccac 3060
140 catttttggc agcgtggcag ctttgcaagg ggctggggcc ctccgctggg ggccatgcct 3120
141 tctgtgtgtt ctgtagtgtc tgggatttgc cgtgtctcaa taaatgttta ttcattgacg 3180
142 gtgaaaaaaaa aaaaaaaaaa aa 3202
145 <210> SEQ ID NO: 3
146 <211> LENGTH: 2616
147 <212> TYPE: DNA
148 <213> ORGANISM: Homo sapiens
150 <400> SEQUENCE: 3
151 atggcggatt ccagcgaagg cccccgcgcg gggcccgggg aggtggctga gctccccggg 60
152 gatgagagtg gcaccccagg tggggaggct ttctctctct cctccctggc caatctgttt 120
153 gagggggagg atggctccct ttcgccctca ccggtgatg ccagtcgccc tgcctggcca 180
154 ggcgatgggc gaccaaactc gcgcatgaag ttccagggcg ccttccgcaa gggggtgccc 240
155 aaccccatcg atctgctgga gtccacccta tatgagtcct cgggtggtgc tgggcccaga 300
156 aaagcaccca tggactcact gtttgactac ggcacctatc gtcaccactc cagtgacaac 360
157 aagaggtgga ggaagaagat catagagaag cagccgcaga gccccaaagc ccctgcccct 420
158 cagccgcccc ccattctcaa agtcttcaac cggcctatcc tctttgacat cgtgtcccgg 480
159 ggctccactg ctgacctgga cgggctgtc ccattcttgc tgaccacaaa gaaacgccta 540
160 actgatgagg agtttctgaga gccatctacg gggaagacct gcctgcccga ggccctgtct 600
161 aacctgagca atggccgcaa cgacaccatc cctgtgtctg tggacatcgc ggagcgcacc 660
162 ggcaacatgc gggagttcat taactcgcct ttccgtgaca tctactatcg aggtcagaca 720
163 gccctgcaca tcgccattga gcgtcgtctc aaacactacg tggaaacttct cgtggcccag 780

```

RAW SEQUENCE LISTING

DATE: 10/01/2001

PATENT APPLICATION: US/09/812,143

TIME: 10:28:23

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10012001\I812143.raw

```

164 ggagctgatg tccacgcccc ggcccggtggg cgctttcttcc agcccaagga tgagggggggc 840
165 tactttctact ttgggggagct gcccctgtcg ctggctgcct gcaccaacca gcccacatt 900
166 gtcaactacc tgacggagaa cccccacaag aaggcggaaca tgcggcgcca ggactcgca 960
167 ggcaacacag tgctgcatgc gctgggtggcc attgctgaca acaccctga gaacaccaag 1020
168 tttgttacca agatgtacga cctgctgctg ctcaagtgtg ccgcctctt ccccgacagc 1080
169 aacctggagg ccgtgctcaa caacgacggc ctctcgcccc tcatgatggc tgccaagacg 1140
170 ggcaagattg ggatctttca gcacatcatc cggcgggagg tgacggatga ggacacacgg 1200
171 cacctgtccc gcaagttcaa ggactgggccc tatgggccag tgtattcctc gctttatgac 1260
172 ctctcctccc tggacacgtg tggggaagag gcctccgtgc tggagatcct ggtgtacaac 1320
173 agcaagattg agaaccgcca cgagatgctg gctgtggagc ccatcaatga actgctgcgg 1380
174 gacaagtggc gcaagttcgg ggcgctctcc ttctacatca acgtgggtctc ctacctgtgt 1440
175 gccatggcca tcttcaactc caccgcctac taccagccgc tggagggcac accgcgtac 1500
176 ccttaccgca ccacgggtgga ctacctgcgg ctggctggcg aggtcattac gctcttcaact 1560
177 ggggtcctgt tcttcttcac caacatcaaa gacttggtca tgaagaaatg ccctggagt 1620
178 aattctctct tcatgatgg ctcttccag ctgctctact tcatctactc tgtcctgggt 1680
179 atcgtctcag cagccctcta cctggcaggg atcgaggcct acctggcgt gatggtcttt 1740
180 gccctgggtc tgggtggat gaatgccctt tacttcaccc gtgggtgaa gctgacgggg 1800
181 acctatagca tcatgatcca gaagattctc ttcaaggacc ttttccgatt cctgctcgtc 1860
182 tacttgctct tcatgatcgg ctacgcttca gccctggtct cctcctgaa cccgtgtgcc 1920
183 aacatgaagg tgtgcaatga ggaccagacc aactgcacag tgcccaacta cccctcgtgc 1980
184 cgtgacagcg agaccttcag caccttctc ctggacctgt ttaagctgac catcggcag 2040
185 ggcgacctgg agatgctgag cagcaccaag taccctgtgg tcttcatcat cctgctgggt 2100
186 acctacatca tctcacctt tgtgctgctc ctcaacatgc tcatggccct catgggcgag 2160
187 acagtgggcc aggtctccaa ggagagcaag cacatctgga agctgcagtg ggccaccacc 2220
188 atcctggaca ttgagcgctc ctccccgta ttctgagga aggccttccg ctctggggag 2280
189 atggtcaccg tgggcaagag ctggacggc actcctgacc gcagggtgtg cttcagggtg 2340
190 gatgagggtg actggtctca ctggaaccag aacttgggca tcatcaacga ggaccggggc 2400
191 aagaatgaga cctaccagta ttatggcttc tgcataccg tgggcccgt cccgagggat 2460
192 cgctggtctc cgggtgtacc ccgctggtg gaactgaaca agaactcgaa cccggacgag 2520
193 gtggtggtgc ctctggacag catggggaac ccccgctgcg atggccacca gcagggttac 2580
194 ccccgcaagt ggaggactga ggacgccccg ctctag 2616

```

197 <210> SEQ ID NO: 4

198 <211> LENGTH: 2616

199 <212> TYPE: DNA

200 <213> ORGANISM: Homo sapiens

202 <400> SEQUENCE: 4

```

203 atggcggatt ccagcgaagg cccccgcgcg gggcccgggg aggtggctga gctccccggg 60
204 gatgagagtg gcaccccagg tggggaggct ttctctctct cctccctggc caatctgttt 120
205 gagggggagg atggctccct ttccgctca ccggtgatg ccagtcgccc tgcgggcca 180
206 ggcgatgggc gaccaaactc gcgcatgaag ttccaggggc ccttccgcaa gggggtgccc 240
207 aaccccatcg atctgctgga gtccacccta tatgagtcct cgggtggtgc tgggcccagg 300
208 aaagcaccca tggactcact gtttgactac ggcacctatc gtcaccactc cagtgaacaac 360
209 aagagggtgga ggaagaagat catagagaag cagccgcaga gccccaaagc ccctgcccct 420
210 cagccgcccc ccactctcaa agtcttcaac cggcctatcc tctttgacat cgtgtcccgg 480
211 ggctccactg ctgacctgga cgggctgctc ccattcttgc tgaccacaaa gaaacgccta 540
212 actgatgagg agtttctgaga gccatctacg gggaagacct gcctgcccga ggccttgctg 600
213 aacctgagca atggccgcaa cgacaccatc cctgtgctgc tggacatcgc ggagcgcacc 660
214 ggcaacatgc gggagtctat taactcggcc ttccgtgaca tctactatcg aggtcagaca 720
215 gccctgcaca tcgccattga gcgtcgctgc aaacactacg tggaaacttct cgtggccagg 780

```

RAW SEQUENCE LISTING

DATE: 10/01/2001

PATENT APPLICATION: US/09/812,143

TIME: 10:28:23

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10012001\I812143.raw

```

216 ggagctgatg tccacgcccc ggcccgtggg cgcttcttcc agcccaagga tgagggggggc 840
217 tacttctact ttgggggagct gcccctgtcg ctggtgcct gcaccaacca gcccacatt 900
218 gtcaactacc tgacggagaa ccccccacaa aaggcggaca tgcggcgcca ggactcgcga 960
219 ggcaacacag tgetgcatgc gctggtggcc attgctgaca acaccctga gaacaccaag 1020
220 tttgttacca agatgtacga cctgctgctg ctcaagtgtg ccgcctctt ccccgacagc 1080
221 aacctggagg ccgtgctcaa caacgacggc ctctcgcccc tcatgatggc tgccaagacg 1140
222 ggcaagattg ggatctttca gcacatcatc cggcgggagg tgacggatga ggacacacgg 1200
223 cacctgtccc gcaagttcaa ggactgggcc tatgggccag tgtattcctc gctttatgac 1260
224 ctctcctccc tggacacgtg tggggaagag gcctccgtgc tggagatcct ggtgtacaac 1320
225 agcaagattg agaaccgcca cgagatgctg gctgtggagc ccatcaatga actgctgcgg 1380
226 gacaagtggc gcaagttcgg ggccgtctcc ttctacatca acgtggtctc ctacctgtgt 1440
227 gccatggtca tcttactct caccgcctac taccagccgc tggagggcac accgcgtac 1500
228 ccttaccgca ccacgggtgga ctacctgcgg ctggtggcg aggtcattac gctcttact 1560
229 ggggtcctgt tcttcttcac caacatcaaa gacttggtca tgaagaaatg ccctggagt 1620
230 aattctctct tcattgatgg ctcttccag ctgctctact tcatctactc tgtcctggtg 1680
231 atcgtctcag cagccctcta cctggcaggg atcgaggcct acctggcctg gatggtcttt 1740
232 gccctggtcc tgggtggat gaatgccctt tacttcaccc gtgggtgaa gctgacgggg 1800
233 acctatagca tcatgatcca gaagattctc ttcaaggacc ttttccgatt cctgctcgtc 1860
234 tacttgctct tcatgatcgg ctacgcttca gccctggtct cctcctgaa cccgtgtgcc 1920
235 aacatgaagg tgtgcaatga ggaccagacc aactgcacag tgcccactta cccctcgtgc 1980
236 cgtgacagcg agaccttcag caccttctc ctggacctgt ttaagctgac catcggcag 2040
237 ggcgacctgg agatgctgag cagcaccaag taccocgtgg tcttcatcat cctgctggtg 2100
238 acctacatca tctcacctt tgtgctgctc ctcaacatgc tcattgccct catgggcgag 2160
239 acagtgggcc aggtctccaa ggagagcaag cacatctgga agctgcagtg ggccaccacc 2220
240 atcctggaca ttgagcgctc cttccccgta ttctgagga aggccttccg ctctggggag 2280
241 atggtcaccg tgggcaagag ctcggacggc actcctgacc gcaggtggtg cttcaggggtg 2340
242 gatgagggtg actggtctca ctggaaccag aacttgggca tcatcaacga ggacccgggc 2400
243 aagaatgaga cctaccagta ttatggcttc tcgcataccg tgggcccgcct ccgcagggat 2460
244 cgctggtcct cggtggtacc ccgcgtggtg gaactgaaca agaactcgaa cccggacgag 2520
245 gtggtggtgc ctctggacag catggggaac ccccgctgcg atggccacca gcagggttac 2580
246 ccccgcaagt ggaggactga ggacgccccg ctctag 2616

```

249 <210> SEQ ID NO: 5

250 <211> LENGTH: 3324

251 <212> TYPE: DNA

252 <213> ORGANISM: Homo sapiens

254 <400> SEQUENCE: 5

```

255 ggccacgcgt cgactagtac gggggggggg ggggggggtg crgsrggake aggactcggc 60
256 cggaggggatc aggaagcggc ggcgctgcgc ccgcgtcctg aggctgagaa gtacaaacag 120
257 atctgggtcc agtatggcag atcctggtga tgggtccccg gcagcgctg gggaggtggc 180
258 tgagccccct ggagatgaga gtggtacctc tgggtggggag gccttcccc tctcttccct 240
259 ggccaatctg tttgaggggg aggaaggtc ctcttctctt tccccggtg atgctagccg 300
260 ccctgctggc cctggcgatg gacgtccaaa cctgcgtatg aagttccagg gcgctttccg 360
261 caaggggggt cccaacccca ttgacctgtt ggagtccacc cggtagcagt cctcagtagt 420
262 gcctgggccc aagaaagcgc ccatggatc cttgttcgac tacggcactt accgtcacca 480
263 cccagtgac aacaagagat ggaggagaaa ggtcgtggag aagcagccac agagcccca 540
264 agtctctgca cccagccac ccccatcct caaagtctt aatcggcca tctctttga 600
265 cattgtgtcc cggggtcca ctgcgacct agatggactg ctctccttct tgttgacca 660
266 caagaagcgc ctgactgatg aggagttccg ggagccgtcc acggggaaga cctgcctgcc 720
267 caagcgctg ctgaacctaa gcaacgggcg caacgacacc atcccgggtg tgcgtggacat 780

```

VERIFICATION SUMMARY

DATE: 10/01/2001

PATENT APPLICATION: US/09/812,143

TIME: 10:28:24

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF3\10012001\I812143.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:541 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:1
L:546 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:13
L:549 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:1